Appendix A

```
// size is the size of the object being allocated
// result holds the pointer to the new object
// fp holds the per processor frontier pointer between
//      zeroed memory and allocated objects.
// vt holds a pointer to the vtable for the object.


top:
                            A
        mov reg, [fp]
                            B
        mov res, reg
                            C
        add reg, size
                            D
        mov AL, res
                            E
        cmpxchg [fp], reg      // swap if fp hasn't changed.
                            F  // Unsafe to do GC here.
        jnz top                   // if other thread allocated
                            G  // Unsafe to do GC here.
        mov    [res], vt
                            H
```

Sequence has been committed, new object is in register result.

Appendix B

```
// size is the size of the object being allocated
// result holds the pointer to the new object
// fp holds the per processor frontier pointer between
//       zeroed memory and allocated objects.
// vt holds a pointer to the vtable for the object.

top:
                              A
        mov reg, [fp]
                              B
        mov result, reg
                              C
        add reg, size
                              D
        cmovnh [result], vt
                              E
        Cmovnh [fp], reg
                              F
        jh redo
                              G
Sequence committed, result holds new object.
...
redo:
        clh
        jmp top:
```
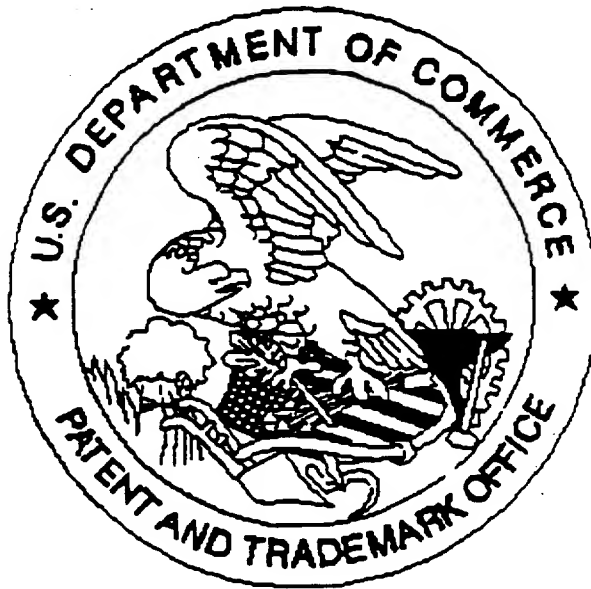
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